# *PRIONUS CORIARIUS* (L., 1758) (COL.: CERAMBYCIDAE) REARED FROM MONTEREY CYPRESS *CUPRESSUS MACROCARPA* HARTWEG EX GORDON (CUPRESSACEAE), AND SOME OBSERVATIONS ON THE BEETLE'S BIOLOGY, STATUS AND UK DISTRIBUTION

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## Abstract

The Tanner Beetle *Prionus coriarius* (L.) (Cerambycidae) is recorded developing in Monterey Cypress *Cupressus macrocarpa* Hartweg ex Gordon (Cupressaceae), a new host record for this polyphagous beetle. Further records of the beetle, and a summary of its published UK distribution, are provided. Aspects of its biology, especially those that may have led to its being under-recorded in the UK, are discussed.

## Introduction

On 20 June 2001, nine dead specimens of *Prionus coriarius* (L.), six males and three females, were found by JAM behind plant pots in a greenhouse in Farnborough, North Hampshire (VC 12, grid reference SU 8755). Living and dead specimens have been noted in the same greenhouse each year since it was erected in 1993, the most recent being on 27.v.2002. The beetles appear to be emerging from the root system of a large Monterey Cypress *Cupressus macrocarpa* Hartweg ex Gordon (Cupressaceae), buried beneath the greenhouse. The tree, at least 3-feet in diameter, was damaged in the storms of October 1987 and was found to be completely hollow. It was cut down and the stump ground down to below ground level and filled over with about one-foot's depth of light sandy soil. Probably, the *Prionus* were already established in the tree by this time, as they are able to develop in the dead tissue of living trees (Bense, 1995). The annual occurrence of adults over a nine-year period, when larval development is usually three to four years (Hyman & Parsons, 1992), suggests that these beetles are continuing to reproduce in the wood beneath the greenhouse. Most sources give the main period of adult emergence from mid-July to September, but possibly the artificially high temperature of the greenhouse has resulted in adults eclosing earlier. All live examples have been released outside in the early evening, and one pair immediately commenced copulation upon release.

*Prionus*, like the stag beetle *Lucanus cervus* L. (Lucanidae), develops almost exclusively on well-decayed subterranean wood (Nikitsky *et al.*, 1996), which is more protected from desiccation during the long larval development. This is apparently the first record of *Prionus* developing in wood of the family Cupressaceae, although it is known to utilise a wide variety of tree species, both coniferous and deciduous. Hyman & Parsons (*op. cit.*) lists *Quercus, Castanea, Fagus* (Fagaceae), *Betula, Alnus, Carpinus* (Betulaceae), *Malus, Prunus* (Rosaceae), *Fraxinus* (Oleaceae), *Ulmus* (Ulmaceae), *Ilex* (Aquifoliaceae), *Aesculus* (Hippocastanaceae), *Salix* (Salicaceae), *Pinus* and *Picea* (Pinaceae). Bense (*loc.cit.*) lists in addition *Corylus* (Betulaceae) and *Abies* (Pinaceae), and Kaufmann (1991) adds *Platanus* (Platanaceae), and 'telegraph poles and old posts'. Very few

saproxylic Coleoptera are so unselective in larval substrate but, as Alexander (1999) observes, "*rotten wood is of a more homogenous nature and supports more general feeders* [than more recently dead wood]". The condition of the wood, i.e. stage of decay and humidity, is probably more important for *Prionus* than the species of tree.

*Prionus coriarius* is listed as "Notable A" in Hyman & Parsons (1992), defined as "*occurring in 30 or fewer 10km squares of the National grid*". However, upon combining the data from Twinn & Harding (1999) and Hyman & Parsons (1992) it becomes apparent that *Prionus* is more widespread than might be expected, with records from forty-two vice counties (1, 2, 3, 4, 5, 7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 28, 29, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 50, 51, 56, 58, 59, 60, 69), and modern (post-1970) records from twenty (2, 3, 9, 11, 13, 14, 15, 16, 17, 18, 19, 22, 24, 25, 26, 27, 35, 44, 50, 51) (Figure 1).

The present paper contributes the first post-1970 records from North Hampshire, VC 12; this record has been incorporated into Figure 1. Kaufmann (*loc.cit.*) also lists an "unconfirmed" record from South Wiltshire (VC 8). Although there are old records from many more vice-counties than there are recent records, it is hoped that the suggestion that it is "*apparently extinct in many areas of its former range*" (Alexander, 2002) is unduly pessimistic. It seems almost certain that the beetle is under-recorded.

Several factors may have contributed to the lack of records. The adults are strongly nocturnal and, unlike other large nocturnal beetles, e.g. *Melolontha* spp., do not shelter in trees and bushes during the day, so are not collected by beating during daylight hours. In spite of their large size, they are of skulking habits; because of the species' preference for buried wood, larvae and freshly eclosed adults are rarely discovered. Duffy (1946) suggests that the species might be found to be more abundant if time was spent searching for wood infested with larvae. Similarly, if coleopterists made more use of light traps; or had more correspondence with lepidopterists who routinely use them, a better impression of the species' distribution might be gained. Adult *Prionus* are most active from July (Duffy, 1946) when many Coleoptera (and hence Coleoptera recorders) are less active. In fact, most records of adults of this species are based on specimens collected by chance, or found dead or at light by members of the public. Below we give details of several unpublished records that clearly illustrate this tendency. MVLB has recorded *Prionus* on only two previous occasions: a single female in a flight interception trap adjoining a dead beech at Silwood Park, Berks (SU 9468, VC 22) on 8.vii.1998 and some fragments (probably from a previous year) in the nest material of the ant *Formica rufa* L. (Hym.: Formicidae) on 9.v.1997 at Chudleigh Knighton Heath, South Devon (SX 8377, VC 03). Hodge (1996) also observed the species under attack by *F. rufa* on 26.vii.1993 in West Sussex (TQ 0615, VC 13). MVLB has received specimens and records from the lepidopterist Colin Hart, collected infrequently in his garden light trap at Buckland, Surrey (TQ 25, VC 17). The Natural History Museum's 'public enquiries database' shows a further four records, as follows: in a lighted bathroom in Weybridge, Surrey (TQ 06, VC 17) in 1995; dead in a garden in Liphook, Hants

(SU 83, VC 12) in 1998; drowned in a fishpond in Bracknell, Berks (SU 86, VC 22) in 1998; and a specimen photographed by Mrs. T .L. A. Franklin at Sidmouth, South Devon (SY 18, VC 3) in 1998. This last locality is also mentioned by Imms (1947), who took a specimen in his garden in Faldonside, Tipton St. John, nr Sidmouth on 21.viii.1946; He suspected he had imported it from a "*neighbouring beech plantation*" along with a "*considerable amount of leaf mould*".

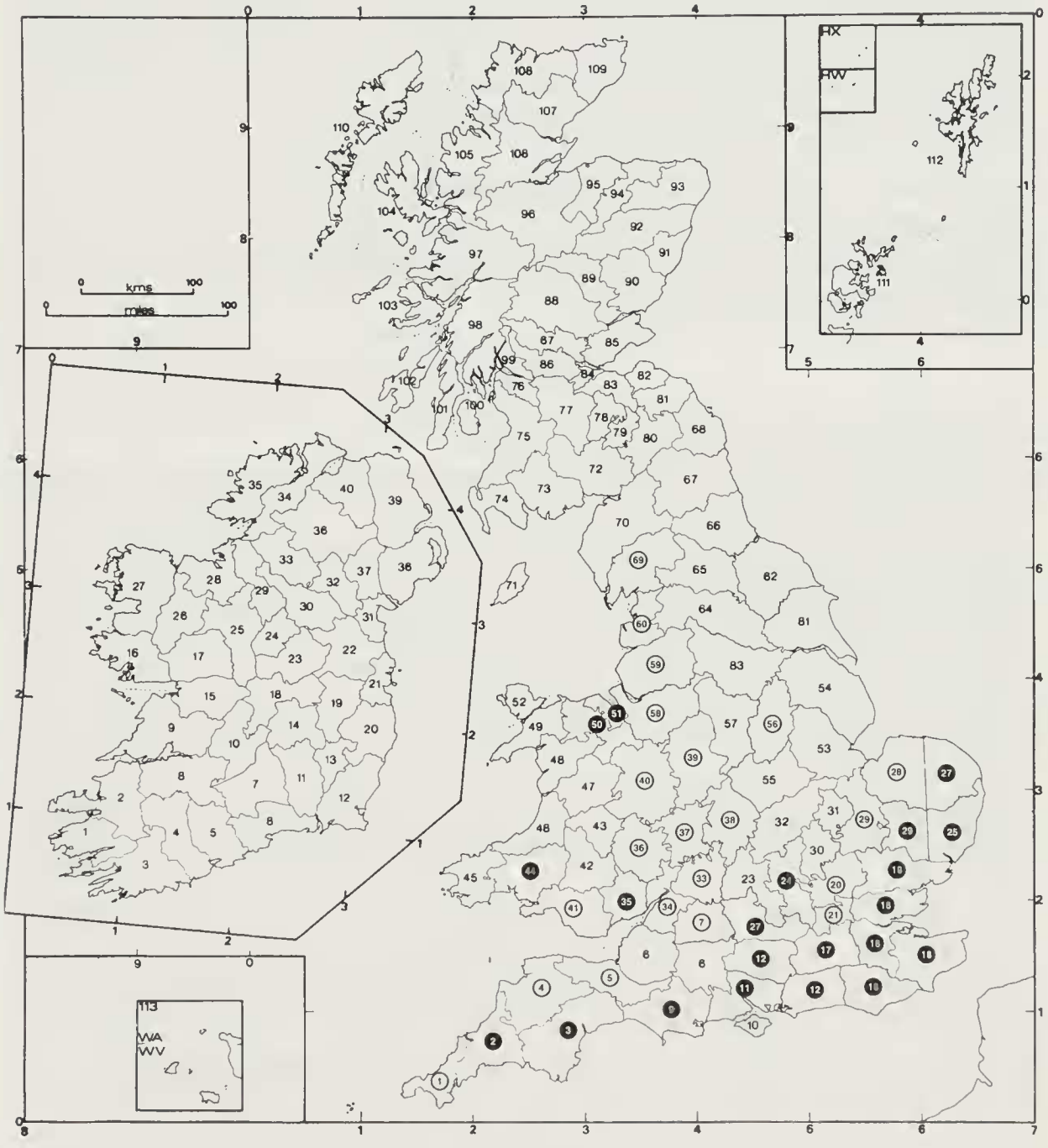


**Fig. 1**. Distribution of *Prionus coriarius*(L.) (Cerambycidae) in Britain and Ireland. The vice-county numbers are shown within a black dot for post-1970 records and are encircled for older records. Base map copyright © Harley Books, Colchester.

On a final note, *Prionus coriarius* is one of the few beetles with a widely used English name, the "Tanner Beetle". This is a direct translation of the specific name *coriarius,* which is defined by Whitaker (interactive Latin-English Dictionary, on the World Wide Web at http://lysy2.archives.nd.edu/cgi-bin/words) as "*of / related to leather / the tanning of hides, leather worker, tanner*". Linnaeus had a tendency to apply the names of workers or professional guilds to large beetles, in this case no doubt prompted by the leathery appearance of the beetle's elytra. Two recent publications (Hyman & Parsons 1992, Twinn & Harding, 1999) have used the term "Sawyer beetle" for *Prionus*, a name used in the USA for longhorns of the pest genus *Monochamus* (Lamiinae) (e.g., White, 1983), although non-entomologists in North America apply "sawyer beetle" indiscriminately to any large longhorn. Its use for *Prionus* is confusing and should be discontinued.

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